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DISCUSSION

TESTING OF CHECK VALVES

BY MR. J. WALTER ACKERMAN

Printed in JOURNAL OF THE AMERICAN WATER WORKS ASSOCIATION, Vol. 1, No. 1, March, 1914, at page 90, and presented at the Philadelphia Convention, May, 1914.

MR. GEORGE HOUSTON: What kind of check valves are usually installed in that class of lines? We have a number of auxiliary water supplies which we are very desirous of protecting our system against, and would be very much obliged if some of the members could give us some information as to the best type to use.

MR. J. WALTER ACKERMAN: The check valves we use are designated by the underwriters as a "special sanitary check valve." There are two or three forms that are being made and have passed the underwriters' test. The principal difference is that the valves are made in tandem, or at least they are assembled in tandem, with sufficient clearance between them so that any ordinary stick or anything of that sort that might get in the mains would not keep both of them open at one time. All the moving parts, the seat ring, the clapper, the arm of the clapper, the hinge pin and the socket of the hinge pin are bronze, with a rubber seat; the rubber being somewhat like that used in the Grinnell dry valves. The clearance is also made very liberal so that any of the tuberculations on the inside would fail to reach the clapper, so that it would always be perfectly free. The inside of the valves is also coated with some sort of asphaltum paint or similar product to prevent tuberculation as far as possible. A letter to the underwriters will give you a list of the manufacturers that make these "special sanitary check valves," showing what ones have been O.K'd by the underwriters.

MR. GEORGE HOUSTON: Just in reply to the kind information given, would like to say that one object in asking the question was for the purpose of bringing out the sense of this Association as to whether or not single clapper check valves are considered sanitary; for the reason that the matter has been brought up in our city a number of times, in an effort to compel the people having auxiliary supplies to put in the sanitary valve; and we have been prohibited from having our way in the matter and they still keep on using single clapper check valves. So we wanted the backing of the Association in the proposition.

MR. J. WALTER ACKERMAN: This subject received a great deal of consideration at one time in our department. Our own idea was that the single clapper valve was practically useless. An examination of the same proved that fact. They were so bad in fact that the Board ordered all auxiliary supplies disconnected, which of course brought forth a great deal of criticism from the manufacturers, our town being a large manufacturing town; but it was not until after we had been assured by some of the best men of the country that we could perhaps secure positive results by the adoption of a sanitary check that they modified that clause; and it took us nearly a year and a half to secure valves at that time that would pass the test prescribed.

As to the question whether a single valve is a sanitary valve, if you have to have an auxiliary polluted supply you cannot throw too many safe-guards around it. The old practice was with single sanitary check valves to bury them in the ground the same as you would a gate valve; but at the present time we require that all the check valves be placed in accessible vaults, drained and cleaned, so that any man can get into them at any time. Personally the speaker considers that the single check valve is entirely unworthy of consideration.

MR. F. A. DALLYN: In Ontario there is a prohibition from the Provincial Board of Health against the use of check valves; that is, there is no connection permitted between the auxiliary supply and the city main. The connection is cut off and sealed. In factories, barrels for cooling purposes, etc., may be filled from such supply, where the feed to the tub is carried to the bottom in order that only dirty water is accessible to the workmen; they do not care to drink this. There are several steel works where it is necessary to have an auxiliary supply in order to cool their rolls. In such cases they are forced to put in drinking fountains fed from a safe supply; the fountains operate continuously and supply cool water. So far as Ontario is concerned, the question has been solved. The use of check valves in not allowed and no difficulty is experienced.

PRESIDENT THOMAS: That is the safest rule to follow.

MR. E. E. DAVIS: In our city we do not allow connections between the two services. We have only one, and that is not a check valve, but simply a gate valve. We were asked by the chief officer how we knew whether that valve had ever been opened, and told him because that valve turned the opposite way from the other valves in that plant, and when a man went there to open it he would attempt to turn it the wrong way and would break it, and in that way we would catch him.